UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/815,529	03/23/2001	Dennis A. Nivens	22-0119	5321

23446 7590 05/26/2004

MCANDREWS HELD & MALLOY, LTD
500 WEST MADISON STREET
SUITE 3400
CHICAGO, IL 60661

EXAMINER	
LELE, TANMAY S	
ART UNIT	**PAPER NUMBER**
2684	8

DATE MAILED: 05/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/815,529	NIVENS ET AL.	
	Examiner	Art Unit	
	Tanmay S Lele	2684	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 March 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-7,11,12 and 14-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-7,11,12 and 14-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 March 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1, 3-7, 11, 12, and 14 – 16 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 5, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vembu (Vembu, US Patent No. 6,259,928) in view of Wiedeman et al. (Wiedeman, US Patent No. 6,240,124).

Regarding claim 1, Vembu teaches of in a satellite communication system comprising a satellite arranged to receive data carried by an uplink signal having a received power a network control center and a transmitter arranged to transmit said uplink signal at a transmit power (Figure 1 and column 4, lines 14 – 18; note "communications link" is noted in column 5, lines 28 – 32 and thus uplink would be included and column 4, lines 38–48; note a gateway performs the same function), an uplink power control method and apparatus comprising: comparing in a satellite the received power of at least a portion of said uplink signal with a power threshold (column 9, lines 46 – 53 and column 7, lines 13 – 19 and column 4, lines 38 – 48); adjusting the transmit power at least in part in response to said comparing (column 9, lines 46 – 53 and starting column 5, line 63 and ending column 6, line 3); determining errors in said data received

at the said satellite (column 9,lines 46 – 53 and column 4, lines 38 – 48); and adjusting said power threshold in response to said determined errors (column 9, lines 46 – 53 and column 9, lines 13 – 22).

Vembu does not specifically teach of transmitting an error report to the network control center; determining a threshold adjustment in the network control center; transmitting a threshold adjustment report to the satellite.

In a related art dealing with satellite communications, Wiedeman teaches of transmitting an error report to the network control center (Figures 6 and 7 and starting column 13, line 66 and ending column 14, line 9); determining a threshold adjustment in the network control center (Figures 6 – 8 and column 8, lines 21 –29 and column 12, lines 52 –59); transmitting a threshold adjustment report to the satellite (Figures 6 – 8 and 11 and column 8, lines 21 –29 and column 12, lines 52 –59).

It would have been obvious to one skilled in the art at the time of invention to have included into Vembu's satellite power control system, Wiedeman's central controller and processor for determining error in power, for the purposes of reducing the processing power required by a satellite (where keeping power consumption low is critical, as power supplies are finite) through a ground based station, further taking into consideration the possibility of different environmental conditions possible on the different links, as taught by Wiedeman.

Regarding claim 5, Vembu in view of Wiedeman teach all the claimed limitations as recited in claim 1. Vembu further teaches of wherein said determining errors comprises: determining error counts of said errors (column 7, lines 52 –67); determining an average error

rate in response to said error counts (column 7, lines 52 –67); and adjusting said power threshold in response to said average error rate (column 7, lines 52 –67).

Regarding claim 6, Vembu in view of Wiedeman teach all the claimed limitations as recited in claim 5. Vembu further teaches of wherein said uplink signal comprises transmit of a plurality of data signals (column 7, lines 52 –54) and wherein determining an average error rate comprises: determining a total number of errors by summing said error counts for said plurality of data signals (column 7, lines 52 –67; as seen in BER curves known in the art); and dividing the total number of errors by the number of data signals in said plurality of data signals (column 7, lines 52 –67 as seen in BER curves known in the art).

4. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vembu (Vembu, US Patent No. 6,259,928) and Wiedeman et al. (Wiedeman, US Patent No. 6,240,124) as applied to claim 1 above, and further in view of Boyden (Boyden, US Patent No. 6,430,394).

Regarding claim 7, Vembu in view of Wiedeman teach all the claimed limitations as recited in claim 1. Vembu further teaches of wherein said uplink signal comprises transmit of a data signal carrying said data (column 4, lines 19 – 26).

Vembu in view of Wiedeman do not specifically teach of a synchronization signal and wherein said comparison is made using said synchronization signal (though Vembu makes reference to other information that can be transmitted in column 4,lines 19 – 22 and further Wiedeman of synchronization signals in column 8, lines 46 –50).

In a related art dealing with power control and satellite systems, Boyden teaches of a synchronization signal (column 4, lines 18 –20) and wherein said comparison is made using said synchronization signal (column 4, lines 18 – 45).

It would have been obvious to one skilled in the art at the time of invention to have included into Vembu and Wiedeman's variable threshold satellite power control system, Boyden's synchronization system, for the purposes of time synchronizing and power controlling a link with a long delay (a the distance would be from ground to space) and further possessing the ability to accommodate for variable propagation conditions, as taught by Boyden.

5. Claims 3, 11, 14, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vembu (Vembu, US Patent No. 6,259,928) in view of Wiedeman et al. (Wiedeman, US Patent No. 6,240,124) and Dahlman et al. (Dahlman, US Patent No. 6,173,162).

Regarding claims 3 and 11, Vembu teaches of in a satellite communication system and apparatus comprising a satellite arranged to receive data carried by an uplink signal having a received power and a network control center and a transmitter arranged to transmit said uplink signal at a transmit power (Figure 1 and column 4, lines 14 – 18; note "communications link" is noted in column 5, lines 28 – 32 and thus uplink would be included and column 4, lines 38–48; note a gateway performs the same function), an uplink power control method and apparatus comprising: comparing in a satellite the received power of at least a portion of said uplink signal with a power threshold (column 9, lines 46 – 53 and column 7, lines 13 – 19); adjusting the offset power of said transmit power at least in part in response to said comparing (column 9, lines 46 – 53 and starting column 5, line 63 and ending column 6, line 3); determining errors in said data received at the satellite (column 9,lines 46 – 53 and column 4, lines 38 – 48); and adjusting said power threshold in response to said determined errors (column 8, lines 15 – 26).

Vembu does not specifically teach of [said uplink signal at a transmit power] formed by a reference power combined with an offset power; adjusting the offset power of said transmit power to a first value in response to determined errors in said first type of data and adjusting said offset power to a second value in response to determined errors in said second type of data; and first and second types of data (note that the brackets are used for clarity and that these limitations are addressed in the above cited reference) or of transmitting an error report to the network control center; determining in the network control center threshold adjustments; transmitting a threshold adjustment report and an offset adjustment report to the satellite.

In a related art dealing with satellite communications, Wiedeman teaches of transmitting an error report to the network control center (Figures 6 and 7 and starting column 13, line 66 and ending column 14, line 9); determining in the network control center threshold adjustments (Figures 6 – 8 and column 8, lines 21 –29 and column 12, lines 52 –59); determining in the network control center threshold adjustments; transmitting a threshold adjustment report and an offset adjustment report to the satellite (Figures 6 – 8 and 11and column 8, lines 21 –29 and column 12, lines 52 –59).

It would have been obvious to one skilled in the art at the time of invention to have included into Vembu's satellite power control system, Wiedeman's central controller and processor for determining error in power, for the purposes of reducing the processing power required by a satellite (where keeping power consumption low is critical, as power supplies are finite) through a ground based station, further taking into consideration the possibility of different environmental conditions possible on the different links, as taught by Wiedeman.

Vembu in view of Wiedeman do not specifically teach of [said uplink signal at a transmit power] formed by a reference power combined with an offset power; adjusting the offset power of said transmit power to a first value in response to determined errors in said first type of data and adjusting said offset power to a second value in response to determined errors in said second type of data; and first and second types of data (note that the brackets are used for clarity and that these limitations are addressed in the above cited reference; though it should be noted that Wiedeman make reference to quality of service thresholds in Figure 11 and starting column 17, line 61 and ending column 18, line 3).

In a related art dealing with power control in a communications system, Dahlman teaches of [said uplink signal at a transmit power] formed by a reference power combined with an offset power (column 3,lines 42 – 65); first and second types of data (column 8, lines 31 – 64; note the possibility this being performed on one bearer); and adjusting the offset power of said transmit power to a first value in response to determined errors in said first type of data and adjusting said offset power to a second value in response to determined errors in said second type of data (Figure 5 and column 3, lines 42 – 65 and column 8, lines 31 – 64).

It would have been obvious to one skilled in the art at the time of invention to have included into Vembu and Wiedeman's variable threshold satellite power control system, Dahlman's multiple data formats and offsets, for the purposes of allowing the transmission and reception of different types of services and further power controlling these services according to their respective quality of service requirement (and thus without excessive waste in power, as different types of data services possess different levels of coding and thus different quality requirements), as taught by Dahlman.

Regarding claim 14, Vembu in view Wiedeman and Dahlman teach all the claimed limitations as recited in claim 11. Vembu further teaches of wherein said determining errors comprises: determining error counts of said errors (column 7, lines 52 –67); determining an average error rate in response to said error counts (column 7, lines 52 –67); and adjusting said power threshold in response to said average error rate (column 7, lines 52 –67) and Wiedeman teaches of threshold adjustment signals received from the network control center (Figures 6 – 8 and 11and column 8, lines 21 –29 and column 12, lines 52 –59).

Regarding claim 15, Vembu in view of Wiedeman and Dahlman teach all the claimed limitations as recited in claim 14. Vembu further teaches of wherein said uplink signal comprises transmit of a plurality of data signals (column 7, lines 52 –54) and wherein said first processor is arranged to: determining a total number of errors by summing said error counts for said plurality of data signals (column 7, lines 52 –67; as seen in BER curves known in the art); and dividing the total number of errors by the number of data signals in said plurality of data signals (column 7, lines 52 –67 as seen in BER curves known in the art).

6. Claims 4 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vembu (Vembu, US Patent No. 6,259,928) in view of Wiedeman et al. (Wiedeman, US Patent No. 6,240,124) and Dahlman et al. (Dahlman, US Patent No. 6,173,162) as applied to claims 3 and 11 above, and further in view of Lieshout et al. (Lieshout, US Patent Application No. 2002/0094833).

Regarding claims 4 and 12, Vembu in view of Wiedeman and Dahlman teach all the

claimed limitations as recited in claim 3 and 11. Vembu in view of Wiedeman and Dahlman further teach of wherein said adjusting said offset power but do not specifically teach of comprises addressing a look up table.

In a related art dealing with power control in a communications system, Lieshout teaches of comprises addressing a look up table (paragraph 0047).

It would have been obvious to one skilled in the art at the time of invention to have included into Vembu, Wiedeman and Dahlman's quality of service dependent power control system, Lieshout's look up table, for the purposes of monitoring power and changing power for specific connections, as taught by Lieshout.

7. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vembu (Vembu, US Patent No. 6,259,928), Wiedeman et al. (Wiedeman, US Patent No. 6,240,124) and Dahlman et al. (Dahlman, US Patent No. 6,173,162) as applied to claim 11 above, and further in view of Boyden (Boyden, US Patent No. 6,430,394).

Regarding claim 16, Vembu in view of Wiedeman and Dahlman teach all the claimed limitations as recited in claim 11. Vembu further teaches of wherein said transmit of said uplink signal comprises transmit of transmit of a data signal carrying said data (column 4, lines 19 – 26).

Vembu in view of Wiedeman and Dahlman do not specifically teach of a synchronization signal and wherein said comparison is made using said synchronization signal (though Vembu makes reference to other information that can be transmitted in column 4, lines 19 – 22 and further Wiedeman of synchronization signals in column 8, lines 46 –50).

In a related art dealing with power control and satellite systems, Boyden teaches of a synchronization signal (column 4, lines 18 –20) and wherein said comparison is made using said synchronization signal (column 4, lines 18 – 45).

It would have been obvious to one skilled in the art at the time of invention to have included into Vembu, Wiedeman and Dahlman's variable threshold satellite power control system, Boyden's synchronization system, for the purposes of time synchronizing and power controlling a link with a long delay (a the distance would be from ground to space) and further possessing the ability to accommodate for variable propagation conditions, as taught by Boyden.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tanmay S Lele whose telephone number is (703) 305-3462. The examiner can normally be reached on 9 - 6:30 PM Monday – Thursdays and on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay A. Maung can be reached on (703) 308-7745. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

Tanmay S Lele
Examiner
Art Unit 2684

NAY MAUNG
SUPERVISORY PATENT EXAMINER

tsl
May 20, 2004